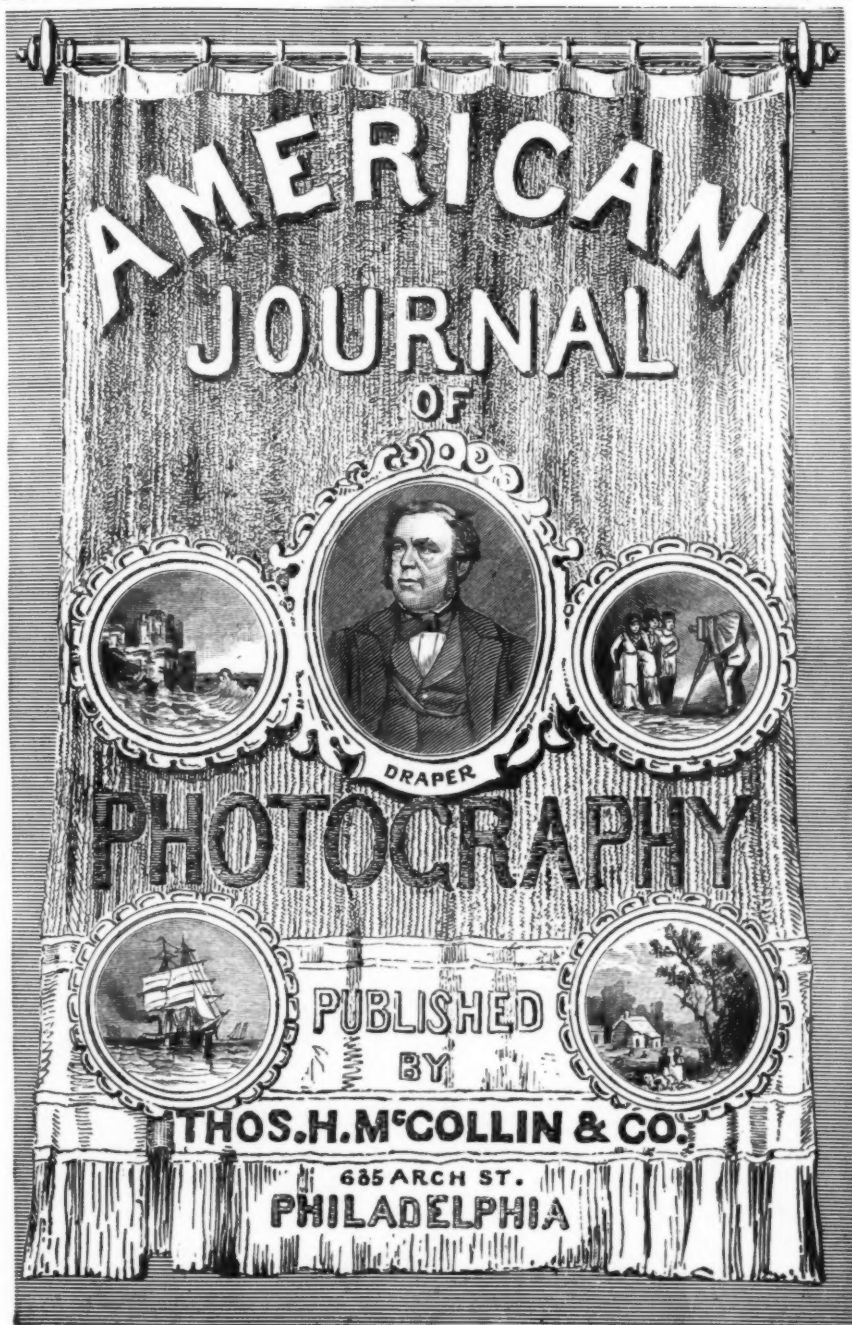



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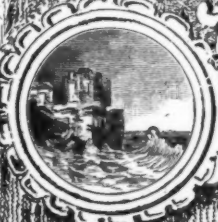


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DRAPER

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Intensifying Gelatine Plates with Gallic Acid and Nitrate of Silver.

BY ELLERSLIE WALLACE.

Since the last issue of this JOURNAL, we have been busily experimenting with gallic acid and nitrate of silver as an intensifier for gelatine negatives. We can not but regret that so high an authority as the editor of the *British Journal of Photography* condemns this process, which we believe to be a very simple and useful one; and which only needs to be a little better known, to be largely used. Let it be distinctly understood, however, that when we thus speak in praise of a process for intensifying, we do not by any means counsel the systematic use of an intensifier; on the contrary, we hold that negatives should always receive their proper printing density from the first development if possible. This has been an axiom in photography from the earliest days, but experienced operators, who know the difficulty of always securing this density, will be the very ones to welcome any process by which the thin, poor plate can be quickly and safely transformed into a fair printing negative.

The gallic acid and silver intensifier is intended only for plates that have been *thoroughly fixed and thoroughly washed*. Any one familiar with photography before the days of gelatine will remember what a ticklish matter it was to apply any silver intensifier to the film after hyposulphite of soda had been used for fixing; indeed many

operators wisely discarded hypo entirely, in favor of cyanide of potassium, the removal of which from the film was a far easier matter. This principle is, if possible, still more true in regard to gelatine plates; so that as we are debarred from the use of cyanide, the necessity for thorough elimination of the hypo is a *sine qua non*.

We may here say that Mr. Cassebaum, to whom belongs the credit of having first called attention to the process, is in the habit of washing his plates for more than two hours in a regular wash-box, and drying them *before intensification*. We heartily approve of this, and could quote instances from other departments of photographic practice where the drying of the film before the application of the intensifier was considered an important point. The question might now be raised as to the necessity for any treatment of the plate preliminary to the use of the gallo-nitrate. We could at once answer this by referring to Mr. Cassebaum's regular gallery practice, where the acidifying bath is always employed, as well as to this singular fact in photographic chemistry, that even when certain substances have been so perfectly removed from the film that no chemical test betrays their presence, still the film will remain so altered by their having once been present there that it will fog or otherwise behave badly during the after-treatment. Hence the necessity for a preliminary bath, and the chrome alum and nitric acid as recommended by Mr. Cassebaum is well chosen for the purpose. At the present writing, we are experimenting with another solution which may eventually take the place of the alum bath, but we can not at all agree with the editor of the *British Journal* when he says that *the preliminary bath as*

at present recommended, and the absence of restrainer in the intensifying solution, entirely destroy any possible advantages derivable from the Philadelphia formula. It is, on the contrary, just these two identical points that make the process a good and safe one to work. The presence of acids in the intensifier would slow the whole process of deposition, without ensuring freedom from stain or fog, while the preliminary application of the acid, weak as it is (10-20 drops to 20 ounces of water), has the most beneficial effect. Indeed Mr. Cassebaum informed us that if any one objected to the film being much hardened by the chrome alum, this latter might be omitted entirely, the acid being the principal thing.

We shall keep our readers advised of our future experiments, and before referring them to the following letter from Mr. Cassebaum, will say that after consultation with more than one highly skilled operator, we are satisfied that this gallo-nitrate intensifying will prove in every respect a useful substitute for mercury. To those attempting it for the first time let us say that a good quality of gallic acid should be used, and that it will be well to expose the 30 grain silver solution to the light until no more black deposit settles to the bottom. The clear solution should then be filtered off. The formula will be found in full on page 89 of our last issue, but instead of 120 grains of gallic acid to the ounce of alcohol, 80 grains should be taken. We hope that our esteemed colleague of the *British Journal* will give the process another trial.

PHILADELPHIA, May 17, 1887.

DR. E. WALLACE :

Dear Sir:—Having expressed to you my intention of trying the addition of pyrogalllic acid to the gallic acid intensifier, I made the experiment to-day, taking 120 grains of gallic acid and 20 grains of pyro to 1½ ounces of alcohol; 1 drachm of this to 1 drachm of the silver solution (30 grains to the ounce of water) and 3 ounces of water. Not having added any acid, I expected the mixed solution to turn to a dirty brown muddle very soon, but found that

the gallic acid exercised a decidedly retarding influence, the reduction taking place very gradually indeed, and the solution remained clear for nearly an hour, a very gradual reduction taking place, forming a slight deposit on the sides of the glass vessel containing the mixture.

I cannot say that I have noticed any particular advantage in the addition of pyro, nor any disadvantage.

In reference to the article you intend to write, on the gallic acid intensifier, I would suggest the advising of your readers, to re-apply the chrome alum and acid solution after the negative has been intensified and washed sufficiently to remove the greasy appearance (due to the alcohol). I find that after an immersion for a short time only, the staining of the film disappears almost entirely, leaving the shadows and clear margins very bright.

Should a slight red stain occur during intensification, from careless washing after fixing, the above treatment and then rinsing off the plate and placing it in the hypo bath again, will cause the red stain to disappear in a shorter or longer time, according to the intensity of the stain.

In place of the nitric acid and alum solution, water acidulated with sulphurous acid or sulphuric acid and sulphite of soda may be substituted. I prefer the alum and nitric acid solution.

Respectfully yours,

JNO. G. CASSEBAUM.

The Origin and Technology of Photographic Chemicals.

FRANK H. ROSENGARTEN.

Second Paper.

In our last paper, we spoke of the keystone of photography—nitrate of silver. Now come the next, and equally as important, factors, the haloids—bromine, iodine, and chlorine—without which our work would be impossible. Of these, bromine plays the most important role, although the others are at times essential.

In producing an image on a plate or paper by the use of silver, this metal must be in the form of a salt which is readily attacked by light, or rather by the actinic

rays of light. This action is imperfect if natural light be transmitted through yellow or red glass, owing to the property such glass possesses of retarding or shutting off entirely the actinic or chemical rays. After much experimenting, first with chloride of silver, then with iodide, and last with bromide of silver, the great strides of photographic progress have brought the art to the wonderful stage of simplicity for workers by the marvelous properties this mysterious element has. The old-fashioned Daguerreotype was formed with iodide of silver, but the process was a difficult and an expensive one, and has been totally abandoned in favor of the more recent bromide plates and paper.

As so often happens in the technical production of useful chemicals, bromine is obtained from a liquid which formerly was considered a waste product and a nuisance. In making table salt, saline water is pumped from deep wells, evaporated to a very small bulk, and the crystals of salt are dipped out. Salt having the peculiar property of being as difficultly soluble in saturated hot solution as in cold, while the bromides of magnesia, etc., are more soluble, fresh portions of saline water are added, and the evaporation continued until a period arrives when the salt begins to have a bitter taste, owing to the soluble impurities in the mother water. Formerly, the evaporation ceased at this stage, the bitter water, or "bittern," was run away in the gutter, and fresh supplies of saline water were taken to evaporate.

Balard, of Montpelier, discovered in this bittern, as far back as 1826, the element bromine, associated as bromide of magnesia, sodium, and calcium. Since then it has been found in the waters of the ocean, in certain marine animals and vegetables, and, in three instances, in the mineral kingdom, also in an ore of zinc, in the cadmium of Silesia, and in the potash salts at Stasfurt. It was traced by Méne in the coal gas liquor of the Paris gas works. In the United States it was first obtained by Prof. Silliman, in the bittern of the salt wells at Salina, in the state of New York, although in small and unpaying quantities. Dr. David Alter found it in the

bittern of salt wells near Freeport, Pennsylvania, and from him the writer's firm obtained the apparatus for manufacturing bromine in 1866, and from that time the great production of this material dates.

The bittern of the salt wells of that locality contains the bromine combined with alkalies, and yields an average product of nine drachms to the gallon of bittern, although a gallon of bittern may represent the evaporation of many hundreds of gallons of salt water as pumped from the salt wells.

To obtain the bromine from the bittern, a special apparatus made of sand-stone is necessary, owing to the intense corrosive action its vapors have on metals. The bittern is agitated with sulphuric acid and black oxide of manganese, whereby chloride of manganese, sulphates of the alkalies, and some chlorine are evolved, and the bromine, by the action of heat, is distilled off and collected, under a layer of water, in suitable vessels, to avoid loss by evaporation.

As thus produced, bromine is a dark brownish-red mobile liquid, evolving, even at the ordinary temperature, a yellowish-red vapor, highly irritating to the eyes and lungs, and having a peculiar, suffocating odor, resembling that of chlorine. It boils at 145° Fahr., and has a specific gravity of 2.99, being three times that of water. It makes alloys with the other haloids, and is difficult to obtain free from them. It forms salts with many metals and alkalies, forms an acid with hydrogen, and with oxygen gives an acid containing five equivalents of oxygen, giving salts called bromates, which have entirely different properties from the hydrogen acid. Its compounds with metals, as well as organic substances, are quite stable. In 1863, bromine was so rare its price was at least \$10 per pound; to-day, it can be purchased in quantities for one-sixteenth of that amount, and where ounces were made then, tons of it are now consumed.

Iodine is another of the instances where a waste matter has yielded a costly and valuable product. It is produced from the ashes of sea plants found in France and Scotland, but most largely in the bittern of

nitrate of soda in Chili. It is a blackish, lustrous, crystalline substance, and but little used in photography. In medical practice it is one of the most useful specifics, and is consumed in large quantities. In fact, the greatest consumption of the iodides and bromides is in medicine, and are often prescribed in doses as large as thirty grains.

A Journey Through Arabia Petra with the Camera.

BY WILLIAM H. RAU.

Photographing in the desert and among the ruins of ancient places like Petra and Sinai presents, indeed, something novel, even to one who has had varied and unusual experiences.

In this paper, the writer will endeavor to outline the work done in Petra and vicinity; leaving the account of the Sinai trip for another occasion.

After a long and severe struggle on the part of our dragoman with the Bedouin at Akaba in arranging the detail and getting the camels necessary for the journey from Akaba, through Petra, to Hebron, we finally started northward on the broad Wady Araba, soon turning to the right into the Wady el Ithm, and in five days arrived at a high elevation, still a full day's march from Petra.

Travelers frequently exaggerate their accounts of visits to strange and unfrequented places; the object being more to exalt themselves as heroes than to picture the actual condition of things; narrating in graphic terms, the manner in which they instructed, or rather commanded, the Bedouin to do thus and so; making personal compacts with the native Arabs—in fact, assuming the rank and importance of chief of the expedition, whereas they are obliged to make known the simplest needs through the dragoman, on whom they are compelled to rely implicitly for the entire conduct and management of the journey.

There is certainly enough of romance connected with a journey to Petra not to need this fictitious setting. The truthful account, we trust, will be much more interesting, and, we believe, even more

dramatic—dealing with the actual facts in the case, and not unduly exalting the one person.

The trip certainly was attended with anxiety, as the entrance to Petra is so narrow as to be easily defended by a few men. Our only hope of getting in at all, was by slipping in unawares. To effect this, our dragoman sent a Nubian scout ahead, instructing him to return in case the coast was not clear, but if nothing should oppose, to hasten on and seek Salim, the Chief of the Bedouin, who would protect us from the swarms of Fellahin, who would undoubtedly clean out any caravans coming that way.

On Saturday, March 25th, we were up at four o'clock. Being at a great elevation, it was intensely cold; but the journey being long, we were obliged to start early. Seven o'clock found us near the summit of the Mount Seir range, overlooking the red rocks and crags of Edom, in the midst of which was Petra. A deep gorge could be traced, running east and west, which has been erroneously engraved in the *Century Magazine* as the Wady Sik. We reached the entrance of this gorge ten hours later. In the furthest distance loomed up Mount Hor, at whose base lies ruined Petra, and close in the foreground, a mile distant, a ruined city or village. It was a grand panorama, making a glorious picture. As was our custom, the camera was in readiness, and a number of negatives made. After this, we rounded one promontory after another, thinking each would bring us in sight of the Wady Sik, but it was very evident that none in our party knew how far it was, or at what time we might reach it.

Although Hadaya, the dragoman, had been there before, he did not know the country as well as we could wish. At noon, as usual, we stopped to lunch, but our anxiety was so great that I doubt if anyone really enjoyed that meal. During this noonday rest a number of fierce and dirty Fellahin passed us, which increased our anxiety.

On asking our dragoman what we could do in case of attack, he said he could form a barricade of our camels, and fight from

behind them, showing us how this was made. While the Bedouin were ranged behind this camel barricade, I made a negative of the scene.

Continuing our journey, we kept on a level, at the same great elevation, until about four o'clock, when we began gradually to descend.

We noticed miles of terraces on the mountains along which we were traveling, all in a state of ruin. These were evidently ancient, as the land is not cultivated now, but looks barren. About five o'clock we noticed a small village to our right, which we found was Eljy, inhabited by Fellahin. Quickly moving on, we slip down on a level with the stream of Wady Mousa, and hurrying along, we soon entered the necropolis, where we saw tombs cut out of the rocks, many of them standing out alone, others cut in the side of the cliff, the prevailing color here being yellow. We emerged from this valley into an open area, fronted by high red bluffs, in which is a narrow cleft—the Gorge of the Sik, through which meanders the tiny stream. Thrown across this gorge, at an elevation of about sixty feet, is an arch, partly in ruin, which forms a gateway; passing under this, we found ourselves in a frightful chasm, choked with stones, overgrown with wild oleanders, caper plants, tamarisks, etc., through which we picked our way on foot. Irby and Mangle, commanders in the Royal Navy, visited Petra in 1819, and say of this gorge:

"There is, however, one frightful chasm, which furnishes, as it did anciently, the only access to Petra on this side, and it is impossible to conceive anything more awful or sublime than such an approach. The width is not more than just sufficient for the passage of two horsemen abreast; the sides are in all parts perpendicular, varying from four to seven hundred feet in height, and they often overhang to such a degree that, without their absolutely meeting, the sky is intercepted and completely shut out for one hundred yards together, and there is little more light than in a cavern. The tamarisk, the wild fig, and the oleander grow luxuriantly about the road, rendering the passage often difficult.

The caper plant has also a luxuriant growth in the Sik."

The prevailing color is red, but occasionally the strong yellow combines harmoniously with it. We attempted several views in this gorge, but they were failures as pictures, as it was quite dark, and too narrow and deep. We followed along this gorge a mile and a quarter, passing many curious altar-like sculptures and niches in the walls, here and there traces of the road, and on the sides we noticed, at a height, a water course passing along in earthen pipes, bedded and secured with mortar, in horizontal grooves cut in the rock. The ravine, without changing its general direction, presents so many elbows and windings that the eye can seldom penetrate forward beyond a few paces, and is often puzzled to know in what direction the passage will open. About midway in this gorge of natural horrors some thirty pilgrims from Bombay were murdered, in 1818, on their return from Mecca, by the Bedouin of Wady Mousa. On reaching the darkest portion of the ravine, a beam of stronger light breaks in at the close of the dark perspective, and opens to view, half seen at first, through the tall, narrow opening, columns, statuary, and cornices of that marvel of Petra—the Kuzneh—looking as fresh as from the chisel, without the tints or weather stains of age, and of a pale-rose color. Only a portion of a very extensive architectural elevation is seen at first, but it has been so contrived that a "statue of victory" just fills the centre of the aperture in front. The rest of the design opens gradually as we advance, and we enter an opening, of moderate size, whose sides are by nature inaccessible. This opening gives admission to a great body of light to the eastward. The position is one of the most beautiful that could be imagined for the front of a great temple; and the richness and exquisite finish of the decorations, offer a striking contrast to the savage scenery which surrounds it. It is very lofty, comprising two stories; no part is built, the whole being excavated, and, in its minutest details, is so perfect that few ancient works can compare with it in the preservation of its

architectural decorations. The centre of the superstructure is a circular elevation, surrounded by columns, with a dome surmounted by an urn. The green stains on either side would lead to the supposition that the handles had been of bronze. Above the monument the face of the rock is left overhanging, and it is to this that the excellent preservation of its detail is to be ascribed.

(To be continued.)

The Legitimacy of Accessories in Judging the Art Value of Photographs.

Last year, at the close of the St. Louis Convention, when the decision of the judges was made known, much dissatisfaction was expressed because the acknowledgment was made that judgment was influenced by the manner in which the exhibits were mounted and framed.

It was even plainly said that a juror, in making such an acknowledgment, gave evidence of his utter unfitness for the assumed function, inasmuch as he was appointed to adjudicate on the merits of the photographs only, and not in connection with accessories.

This verdict seems to have carried with it so much conviction as to influence the committee in charge of the Exhibition to be held in Chicago: one of the clauses of the regulations distinctly conditioning that "all competing exhibits must be without frames and glass."

In the desire to eliminate all extraneous influences, so that the decision of the judges may be a critique of pure judgment, against which none dares cry out, are we not in danger of defeating the very aim and object for which all exhibitions should be made—the cultivation of artistic feeling in photography. The ultimate intention of coming together is not that the prizes may be justly awarded, but that we may advance in our profession by comparison of work and interchange of ideas.

Therefore, anything which contributes to stimulate the artistic taste should be fostered and encouraged, rather than depressed and disallowed, even if we have to forego the medals.

Undoubtedly the finish of a photograph has great value in enhancing the good qualities it may inherently possess.

If a photograph has artistic values, is it not perfectly legitimate to set them forth to the best advantage? otherwise, it seems like lighting the candle of art and putting it under a bushel. Let us place it rather in the candlestick, where it shall give light to men.

Our Conventions should be schools, not race-courses for the acquisition of prizes.

The St. Louis judge who so candidly acknowledged the influence of the accessories, showed his fitness for the function, inasmuch as he possessed the knowledge to analyze that which operated upon his judgment.

It is not just to judge of a photograph *per se*. We may be able to determine its technical qualities, but we cannot judge of its artistic effect. The manner in which it is mounted and framed actually gives it qualities which it could not possess unmounted and unframed. The effect of the finest artistic work is greatly weakened, and even neutralized, by incongruous mounting. The appropriateness of the mount is seldom taken into consideration. In our Exhibitions, "motley seems to be the only wear." All shades and forms and colors are not only in dangerous proximity, but even mingle together, without the slightest remorse for their violation of the first principles of harmony in color.

When the endeavor is made by some one of taste to enhance the beauties of his exhibit by suitable mounting and framing, why raise the hue and cry that he is trying to warp the judgment of the jurors by illegitimate methods? Why not rather applauded him for his labor, and emphasize the lesson in art it teaches?

If, in our fear to be biased by anything which is not photographic work, we are to be so scrupulous in our judgment, why should we receive the photograph mounted at all, or why not condition that no margin appear? It can be shown that a photograph is enriched by a proper mount. Unfortunately for the purity of our judgment, our eyes are physiologically constructed, so as to be influenced by contiguous colors.

We cannot look upon any two colors and receive the impression from each pure and unadulterated. The one modifies the other, although the observer is unconscious of the effect until demonstrated. We can actually change color to a considerable extent without at all meddling with it directly. All that we have to do is to alter the color which lies adjacent to it. We can satisfy ourselves of the truth of this by a very simple experiment.

If we take two little patches of red paper an inch or so in size, and place one upon a sheet of red paper, the other upon a green sheet, it will be found that the red square on the red ground does not appear nearly so brilliant or saturated in color as the one upon the green paper.

The observer who is ignorant of the facts, will not believe that the two are identical in hue. These changes are due partly to the effect which contrast engenders in the eye, but partly, also, to the distraction of the judgment of the observer.

It will be seen, therefore, that the mount influences the judgment. Let us be just. Let us take away the mount; we will have nothing but the photograph, pure and simple.

Imagine an exhibition of paintings without finish or frames. Is the photographer's art higher than the painter's art, that it may content itself with its own pure sweets?

The Photographic Society of Philadelphia.

A stated meeting of the Society was held Wednesday evening, June 1st, with the President, Mr. Frederick Graff in the chair.

The Committee on Presentation Pictures for 1887 reported that they had selected "On a Virginia Turnpike," by Mr. John G. Bullock, and "The Elephanta Caves, India," by Mr. Charles R. Pancoast.

The paper for the evening was read by Mr. Charles Truscott, the subject being "Some Photographic Heresies." The reading of the paper was followed by an interesting discussion of various points touched on by the writer.

Mr. Coates preferred to use plates slow

enough to give several seconds exposure, as with extremely rapid plates, cap exposures could not well be given for such times as 1, $1\frac{1}{2}$, or $1\frac{3}{4}$ seconds.

Mr. Zeckwer suggested the plan of counting as rapidly as the numbers could be pronounced from 1 to 5, which would be found to take about 1 second. If then $1\frac{1}{2}$ seconds are required for the exposure by counting thus rapidly 1 to 5, and then 1 to 3, the fraction of the second would be determined with sufficient accuracy for practical purposes.

It being suggested that the time could be prolonged by use of a small stop, Mr. Truscott made the objection that this was likely to cause diffraction of the rays of light, and consequent fogging of the plate. He stated that the shutter he used was accurately graded for short time work from $\frac{1}{15}$ to $\frac{1}{2}$ of a second.

In reply to a question by Dr. Wallace, Mr. Truscott stated that in wet plate photography with short time exposures, such as portraits of babies, &c., he had frequently heated the developer to about 100° F. before applying to the plate.

For developing short exposures on gelatine plates, he used carbonate of soda, 1 part to 4 of water, varying the solution from $\frac{1}{4}$ to full strength. He found different brands of plates to vary greatly in the time necessary for development.

As to the most desirable position for a shutter, he considered back of the lens the best for avoiding fog, and in the middle of the lens the best for economizing space.

Mr. Fassitt called attention to an article on page 144 of the *British Journal Almanac* for 1887, on "A Cheap, Simple and Effective Reducer for Gelatine Negatives." The directions called for diluting "ordinary chloride of lime with half its bulk of water," and then immersing the negative in the mixture about 20 seconds.

Mr. Fassitt found on trying the plan that the quantities specified produced merely a thick paste, and not a solution in which the plate could be well "immersed." Its action was to quickly and entirely remove every vestige of the film from the plate.

As to its effectiveness, there could be no doubt, but its use for any other purpose

than cleaning glass could hardly be advised. The publication of such impracticable recipes was calculated to do much harm, as they are frequently copied into one journal after another, without trial or investigation by the publishers, continuing their misleading career indefinitely.

Adjourned.

ROBERT S. REDFIELD,
Secretary.

Some Photographic Heresies.

Read before the Photographic Society of Philadelphia,
by Charles Truscott.

Any photographic theory or opinion opposed to the generally accepted one, may be called a kind of heresy, and the heresy of one year frequently becomes the orthodoxy of the next.

The average professional photographer is generally a very conservative individual, slow to accept anything new, or to adapt himself to a new order of things, and yet possessed of more than the average share of ingenuity. This conservatism may arise from the scarcity of writers on photography who are good at making photographs, many of our best photographic writers being proverbially but indifferent photographers, the consequence of this is a large proportion of very fine writing, not without its value to the art science perhaps, but which is either misleading or ridiculous to the practical worker. Correct theory is, of course, very useful to the intelligent workman; but a false theory is neither ornamental nor useful, and a theory founded on imagination or superficial experiment is very apt to be false.

Many of us can remember when a collodio bromide and geletin-bromide emulsion experimentalist was regarded as a kind of fanatical searcher for the photographic philosopher's stone, and the possibility of producing a dry plate to equal wet collodion in sensitiveness, was looked upon as on a par with photography in natural colors. The journals were half-full of the heresy of emulsion photography, but nobody but enthusiasts would read such rot, until Charles Bennett announced photographing an interior by gas-light, and, what was more, showed the results before one

of the London photographic societies, when the photographic world began slowly to awake to the fact that it was on the eve of a great photographic revolution. Then, as there was no denying the rapidity of the new gelatine dry plates, those who had mastered the wet collodion process, but had not the energy or ability to acquire at once the skill to do as good work by the new process, naturally blamed the process, and denied the possibility of its producing such good results, and there still are plenty of photographers in this city to-day who profess to believe the same.

When steel pens were introduced, there were for years many who still clung to the old scratching quill pen, but it was buried with them.

I propose to let wet collodion, for negative-making, bury itself, having been among the first to dispense with it for that purpose.

Gelatine plates.—Photographers generally are afraid of a very rapid plate for general work, they say that qualities, such as sparkle and latitude, have to be sacrificed to rapidity. I do not believe a word of it. I hold that a good rapid plate is capable of doing all that a slow plate is, and much more beside. Then why ride a mule when you may have a good horse for the same money. It is like some beginners I know who were very anxious to possess a lens of great rapidity; they obtained one, but never, under any circumstances, think of using it with any but the smallest diaphragms. They have two good legs, but are afraid to walk, and so hop about on one; or they may be likened to a man who uses steam-power: when his boiler has been tested to 400 lbs., running with safety at 100 lbs. pressure, he is afraid to work at more than 25 lbs., and, as a consequence, is always short of steam to drive his engine and machinery efficiently. Gentlemen, how many photographers are there who take full advantage of the great rapidity of the modern dry plate of to-day? Very few. Indeed, I hold they cannot do so with the appliances which are on the market to-day.

Sometimes we are told that "gelatine has ruined the business." What! enlarg-

ing the scope and power of photography has ruined it! Did the collodion process ruin photography? It ruined the Daguerreotype process; but photography? Not much. Gelatine may, and will, supersede collodion for negative-making. It cannot ruin photography, but is a new power and blessing to the photographer and the world, and we do not yet know half its capabilities.

Development.—Another heresy of mine is concerning development. Development is not the simple matter some people would have us believe. It is a little science in itself, and not to be learned in a year. Now it is generally understood that slow development is the best treatment for a minimum exposure. My practice is directly opposite to that, inasmuch as I invariably use the most energetic developer I can compound and the plate will stand for such a case. I have no faith in homœopathic development as a remedy for general debility in the latent image. Did we use a weak developer for under-exposure on wet collodion plates? No; but both strong and hot, because it was right in theory and practice.

The amateur photographic epidemic is regarded by many professional photographers with a great deal of misgiving. Some even going so far as to say, "Amateurs are ruining the business." Now, I have had considerable opportunity of forming a correct opinion on this point; and while I admit there is a certain class of mercenary plate spoilers, calling themselves amateurs, who expect their camera to earn its own fodder, or who go to Florida, or some other health resort, with the intention of making photography pay part of their expenses, yet I do not admit that calling themselves amateurs will make them such, in any sense of the word. They are professionals, to all intents and purposes, for the time being. Professional quacks, sailing under false colors. I have no doubt that they do some little injury to the business by cultivating the popular idea that photographs do not cost much to make, and that if a man has good instruments and plenty of light, he has every requirement to make good photo-

graphs. This idea the genuine amateur is doing yeoman service to correct. See how he is educating the public taste to discriminate between good and bad photographs. Then look at the number of those who buy expensive instruments, and yet never, or only after much experience, produce good photographs. Is not that teaching the public (what they are slow to learn) that skill is an important factor in the production of good photographs? And when the public are able to recognize the qualities of photographs, and appraise them at their intrinsic value, then the profession will be ruined to all incompetency, whether called amateur or professional, and the skilled workman will find his hands full, and prices good.

I was out with my camera a few days ago, and a gentleman came by and asked, pointing to the camera, "What sort of pictures does that make, clear?" I must confess he did not make himself clear to me, so I answered, "That is for making photographs." He said, "But does it make them clear?" I replied, "That depends on how it is used; it is a question of skill, not tools; one man will carve better with a penknife than another will with the finest set of carving tools."

While I possess the most complete outfit probably in this city, and set a high value on it, I should be foolish to expect my work to be good simply because I possess good tools.

Let us take a comprehensive view of this subject, and see how it looks from a distance in a good light. The universe, and all contained therein, visible and invisible, has to be photographed. Who is to do it? We professionals cannot begin to do it; it is much too large a contract. Then what are we to do? Are we to be like dogs in the manger, or cheerfully recognize the valuable service our amateur brethren are rendering in this work? How much, do you think, of the work done by amateurs would come to the profession? Less than one-tenth; that is to say, more than nine-tenths of the work done by amateurs would never be done if they did not do it. Then let us not forget the splendid services amateurs have rendered the art

science in the past. Surely they have earned their diploma. Then away with petty jealousies, and such old cries as "The craft is in danger!" If the craft is in danger, it is from within, and not from without; and it will generally be found that the most jealous are the incompetent—those who have no special skill to rely on.

There is a general superstition in the profession that a north light is a necessity for a portrait studio. In fact, I very much doubt if there is a south skylight in this city. See the trouble they have gone to all down Arch and Chestnut streets, to obtain a north light; they have had to either build over two houses, or spoil the length of the studio. Now, I have worked under many skylights, and prefer a south light every time.

Speaking of portraiture, a portrait combination lens is supposed to give great roundness of image; of course, opticians favor this view, as well as many photographers. My opinion is, it is a question of lighting, and has little or nothing to do with the lens.

Mr. Burton has lately been finding fault with the term "depth of focus," but he does not suggest a better. He says it is impossible that more than one plane can be perfectly defined at once by any lens, no matter how small the diaphragm used. Truly, we are getting things down very fine. Why did he not go further, and object to the term "flatness of field," because no lens has a perfectly flat field? Why did he use the term "perfect definition," when he knew that the correction of all photographic lenses is a compromise, and that the photographic lens has not yet been made perfectly free from astigmatism? Consequently, there is no such thing as perfect definition. I notice some writers on photographic optics have lately been using the term "penetration;" but is it any improvement on "depth of focus?" I think not; besides it is not nearly so expressive. The English language is a very good one, but, like many other things, is not quite perfect.

Another heresy of mine is that every live photographic society should have a standing committee, which may be called

the "Research Committee," composed of three experts, who should, if possible, be, either individually or collectively, skilled in photographic chemistry, photographic optics, and mechanics, with power to add to their number for special work. They should report at each monthly meeting on such matters as might have been referred to them, or in their judgment they may deem worthy of investigation. One part of the order of business should be "Report of Research Committee." A question may be asked which no one is able to answer, such as "Is chloride of sodium a restrainer or an accelerator?"—referred to the Research Committee. An optician brings out a new lens or a new invention, or a plate-maker a new plate, for which they claim certain possible or impossible qualities. Knowing a society has a competent Research Committee, samples are forwarded for examination, and the reports of such committee would be of great value to the members and the photographic world.

I have heard it stated, on good authority, that a diaphragm which expands and contracts during exposure would not give good definition with a single lens, but having tried it, I can say it is a mistake, for it does not injure the definition in the least, but improves it.

J. Trail Taylor, in a lecture on lenses recently, proposed as a corrector for single lenses a pair of common, cheap lenses, to be placed near the diaphragm; one a periscopic, of short focus, and the other a concave lens, of the same focus. I have tried it, and having no focus, it has no effect, as we might expect. This gentleman is usually so very accurate, especially in optical matters, that I am the more surprised he should make such a suggestion without having first tested it.

I was speaking of this to a gentleman whom you all know, and he said, "Have you seen my plan of doing that?" I answered, "No; what is it?" He said, "You are aware that a square diaphragm gives cushion-shaped distortion." I replied, "I did not; but I did know that placing the diaphragm behind the lens gave that form of distortion." "Well," he said, "a square diaphragm gives it, too;

now I make a round diaphragm, and outline a square outside of it, and in each corner of the square I cut out a triangular aperture; which will give a rectilinear picture." I tried the square diaphragm, and found it did not give the cushion distortion as stated, so did not think the other was worth trying, as the distortion is not influenced by the shape of the diaphragm, but by its position. I think the single lens has a great future before it, however some may despise it.

One article of my photographic creed is, I believe in the capabilities of a plate of the most exalted sensitiveness, the largest diaphragm, and the shortest exposure that will give the amount of detail and definition desired.

To the Photographic Fraternity.

Time has carried us swiftly on since our last meeting in St. Louis, and will soon bring us together again at the Convention in Chicago, which will open on August 9th. To our association the great event of the year is the Convention; there we renew old acquaintances and friendships, and make new ones; exchange ideas, and show our work. There we go to learn and to teach; to make selections of apparatus and accessories form the thousands of useful articles exhibited by the enterprising stock dealers in their departments; and we thus combine both pleasure and profit by spending a few days among friends and fellow-laborers and the most beautiful attractions that the art of photography can offer us. All should avail themselves of this opportunity for pleasure and recreation, and so enjoy all the benefits of membership of the Photographers' Association of America.

I trust that the craft will turn out strongly, both in numbers and in exhibits of work for our grand art department, for which the association, at the late Convention at St. Louis, voted the sum of one thousand dollars (out of its own funds) for prizes. The Executive Committee, at its meeting in January, endeavored to meet all the demands and suggestions of the fraternity, as well as those of the photographic journals,

and after careful consideration, a schedule of prizes was adopted for the more important classes of practical photography, being one diamond badge (grand prize), seven gold, thirteen silver, and ten bronze medals for home productions; one gold and one silver medal for exhibits from abroad; and one silver medal for the best improvement in photo apparatus or accessories produced since the last Convention. In order to prevent the carrying off of medals by the same parties who won them last year, and to give others a chance, it was resolved that for the coming Convention, winners of gold medals at the Convention of 1886 should be eligible for the grand prize only, and winners of silver medals to be eligible for gold medals and the grand prize only, which latter is open to all members of the association. By these means the winners of last year compete in higher classes this year and have an incentive to eclipse their work shown then.

To meet the demand of a majority of our members, that photographers of smaller resources who cannot compete with their more fortunate brethren in the large cities should have a chance to win an association medal, a class was formed for their benefit, for which class ten bronze medals of merit are to be awarded for the best ten collections, of twenty-four cabinets each; and in order to reserve these for whom they are intended, it was resolved that parties competing in this class cannot compete in any other class. A rule was also adopted that all competing exhibits must be without frames or glass, so that the merits of the photograph alone will appear, and also to more easily make comparisons for award. It is hoped that the work of the committee will prove satisfactory to the members, and I can only add that we have done only that which we considered to be for the best interests of the association. Bring with you or send your choicest work, so that you may compare it with that of your friends, and learn if there is room for improvement.

Come prepared for practical discussion on photographic subjects. Contribute your share towards the general fund of knowledge and experience, and do not

hide your light under a bushel. Be as much prepared to give the advantage of your experience to your colleagues as you are to receive information from them, as in this manner only can be attained the great object for which our association was formed. Our association, born seven years ago in Chicago, will return to its birth-place full of vigor and strength, with the best prospects for permanency, it now being an incorporated society.

Come and enroll yourself in the ranks of our grand army, which has inscribed on its banner the progress of photography; help to fight the battle for improvement in every direction; be in the front rank at all times, and do not lag in the rear.

Use the short time left for preparing, and, when the time comes, come one come all. - Fraternally yours,

G. CRAMER,

President P. A. of A.

Photographers' Association of America.

OFFICE OF THE LOCAL SECRETARY,
PHOTOGRAPHERS' ASSOCIATION OF AMERICA.
298 Dearborn Street, Chicago.

The Committee on Transportation has obtained reduced rates of fare for those attending the Eighth Annual Convention of the Photographers' Association of America. Any further concessions or arrangements relating to transportation and hotels, will be published in the several photographic journals. A liberal reduction on hotel rates is assured.

CHAS. GENTILE,

Local Secretary and Committee on Hotels.

TRANSPORTATION.

A first-class ticket (either unlimited or limited) must be purchased to Chicago, for which regular fare will be paid, and, upon request, the ticket agent will issue a certificate of such purchase.

If through tickets cannot be procured at the starting point, you will purchase to the most convenient point where such through tickets can be obtained, and re-

purchase through to Chicago, requesting a certificate from the ticket agent at the point where repurchase is made. Tickets for return will be sold by the ticket agent at Chicago, at one-third the lowest regular limited fare. In case there is no limited fare to the point desired, one-third of the regular unlimited fare will be used.

Certificates for return tickets will be signed by G. M. Carlisle, Treasurer.

It is very important that a certificate be procured, as it will indicate that full fare has been paid to Chicago, and that you are entitled to the reduced fare for returning.

SECOND REPORT OF COMMITTEE ON TRANSPORTATION:

We find that a lower rate of fare can be secured if fifty (50) or more will rendezvous at some one point, and purchase their transportation at the same time.

The rate will be one fair for the round trip.

It is to be hoped that members will at once interest themselves in locating one of these excursions.

Apply to the undersigned if you will engage in this work, and circulars will be furnished.

GAYTON A. DOUGLASS,

Committee on Transportation.

185 Wabash Ave., Chicago.

PRIZES AT THE CONVENTION.

The list of offers made by the convention has been published. The offer of the Stanley Dry Plate Co. has also been made known. The following are in addition:

PRIZE OFFER FOR PICTURES ON EASTMAN'S PERMANENT BROMIDE PAPER,

To be Exhibited at the Convention of the P. A. of A., Chicago, August 9, 1887.

To stimulate the exhibition of work on bromide paper, and show what has been accomplished during the past year by our customers, we make the following offer of prizes:

PLAIN ENLARGEMENTS.

Class A.—\$150 for the best collection of unfinished enlargements.

\$75 for the second best collection of unfinished enlargements.

Class B.—\$50 for the best unfinished portrait enlargement.

\$25 for the second best unfinished portrait enlargement.

Class C.—\$25 for the best unfinished enlargement from landscape or marine view negative.

CONTACT PRINTS.

Class D.—\$50 for the best collection of contact prints.

FINISHED ENLARGEMENTS.

Class E.—\$100 for the best enlarged portrait finished in black and white.

\$50 for the second best enlarged portrait finished in black and white.

\$25 for the third best enlarged portrait finished in black and white.

Class F.—\$100 for the best enlarged portrait finished in color.

CONDITIONS OF OFFER.

Unfinished prints must be mounted on stretcher or plain white card, and exhibited without frame or mat. Finished pictures may be framed. Plain enlargements must be 20x24, or larger; no limit as to size of finished pictures or contact prints. Each exhibitor will be required to certify that all the pictures that he enters for these prizes were made on Eastman's Permanent Bromide Paper, and in case of enlargement, if required by the judges, he shall show the original negative before receiving prize. Each exhibitor will be furnished, on application by mail, to the Eastman Company, with a printed card bearing number and stating class in which his picture, or pictures, are entered. Pictures must be sent prepaid to the Secretary of the Exhibition, with name and address of exhibitor marked on the back of the picture.

Prizes to be awarded by three judges appointed at the convention. The enlarging department of the Eastman Company will not compete for any of these prizes.

Grand total of prizes to be offered by the Eastman Dry Plate and Film Co., amounts to \$650, to be awarded and paid in cash, at Chicago, August 9, 1887.

AIR BRUSH PRIZES.

The Air Brush Manufacturing Company offers two prizes at the Convention of the Photographers' Association of America to be held in Chicago, August, 1887.

An air brush will be given for the best portrait in black and white, finished exclusively by it, and another will be given for the best water-color portrait finished exclusively by the air brush. Portraits may be of any size and upon any print.

The awards will be made during the convention by three judges who shall be members of the P. A. of A., and who shall be chosen at the time of the convention.

Each certificate of award will be accompanied by an order upon the Air Brush Company for one complete air brush.

W. H. WALMSLEY & Co's PRIZES.

W. H. Walmsley & Co., of Philadelphia, offer the following prizes for competition at the Chicago Convention.

First—For the best examples of portraiture—from cabinets to life-sized heads—made with Beck's "Autograph" Rectilinear lenses (not smaller than No. 6), one No. 7 "Autograph" lens, the cash value of which is one hundred dollars, fitted with the new Iris Diaphragms, valued at \$67.50.

Second—For the best work, other than portraiture, such as architecture, landscapes, interiors, etc., made with Beck lenses of any size, one No. 5 "Autograph" lens of the cash value of sixty dollars.

These lenses will be made by the Messrs. Beck especially for this occasion. They will be appropriately engraved, and will be exhibited during the convention.

CONDITIONS OF OFFER.

Each exhibitor will be required to certify that all the pictures he enters for these prizes, were printed from negatives made with Beck's "Autograph" Rectilinear, or Wide-angle Lenses, in accordance with the above offers. Pictures must be sent prepaid to the Secretary of the Exhibition, with name and address of the exhibitor marked on the back, together with the sized lens used in its production, and with such other information as he may see fit to impart.

Prizes to be awarded by three judges appointed at the convention.

CASH PRIZE BY THE STANLEY DRY PLATE COMPANY.

The Stanley Dry Plate Co., offers a hundred dollar cash prize to be competed for at the coming Convention of the Photographers' Association of America, in Chicago, August 9, 1887. This sum will be given as a prize for the best collection of photographs, either landscapes or portraits, made on the Stanley dry plate and displayed at the Chicago Convention. Pictures may be of any size. The award will be made on the second day of the convention by three judges, members of the Photographers' Association, who will be appointed at the time of the meeting of the convention.

CASH PRIZE BY E. & H. T. ANTHONY & Co.

A cash prize of one hundred dollars will be given for the best collection of untouched enlargements, consisting of not less than three pictures, made upon Anthony's Bromide Paper, at the coming Convention of the Photographers' Association of America. Each picture to have a private mark of the photographer, and a duplicate mark with the name of the photographer to be sent in so that the judges can be advised after the award is made to whom it belongs.

After the convention, all competing ex-

hibitors for this prize will be presented with one dozen sheets of the bromide paper, 20x24.

The judges will be three members of the Photographers' Association of America.

PRIZE OFFERS FOR PHOTOGRAPHS MADE WITH THE MORRISON LENS.

The Scovill Manufacturing Company is authorized by Mr. R. Morrison to make the following prize offers:

For the best photograph exhibited at the Chicago Convention, made with a Morrison Lens:

The choice of a Morrison Leukoscope Lens, cash valuation, from \$80 to \$180.

For the second best photograph exhibited at the Chicago Convention, made with a Morrison Lens:

A set of Morrison Wide-Angle Combination Lenses in a morocco case, cash valuation, \$80.

The lenses to be suitably engraved with the winner's name, etc., etc.,

The awards to be made at the convention by judges appointed at that time.

On Red and Purple Ohloride, Bromide, and Iodide of Silver; on Heliochromy, and on the Latent Photographic Image.

The American Journal of Science for May.

In this series of papers it will be my object to show: (1) That chlorine, bromine, and iodine are capable of forming compounds with silver exhibiting varied and beautiful coloration, peach-blossom, rose, purple, and black. That these compounds (except under the influence of light) possess great stability: that they may be obtained by purely chemical means, and in the entire absence of light. (2) That of these substances the red chloride shows a tendency to the reproduction of colors. It seems not improbable that the material of the infinitesimally thin films obtained by Becquerel, Niepce de St. Victor, Poitevin, and others in their experiments on heliochromy may be the red chloride. (3)

That these substances, formed by purely chemical means, constitute the actual material of the latent or invisible photographic image, which material may now be obtained in the laboratory, without the aid of light and in any desired quantity. They also form parts of the visible product resulting from the action of light on the silver haloids.

For more than a generation past, the nature of the latent photographic image, that which forms the basis of development, has been in dispute. Two theories have been maintained. According to the one, the first effect produced by light is simply a physical change, predisposing the elements of the silver haloid to dissociation, so that when a reducing agent is applied the molecules so affected yield more quickly to its influence. According to the other theory, the invisible image is formed of a subsalt (subchloride, etc.). Observations which I published many years, led me strongly to the first-mentioned of these theories. But of late years, results have been obtained not easily reconcilable with it. On the other hand, the theory that the latent image is formed of subsalt is opposed to striking facts. Silver subchloride, for example, is an unstable substance, quickly destroyed by dilute nitric acid. But I have formed a latent image on silver chloride, and after exposing it for five minutes to strong nitric acid (s. g. 1.36), have developed the image without difficulty; the same with silver bromide. Evidently these images, which so strongly resisted the action of undiluted acid, could not be formed of simple subchloride and subbromide of silver, substances quickly destroyed by it.

In the desire to find a satisfactory explanation of the nature of the image based on adequate chemical proof, I have devoted nearly three years of laboratory work to this and to closely allied subjects. I am led to the conclusion that neither of the older views is correct. A truer theory seems to be deducible from the result of some experiments which I published in 1885, to the effect that the silver haloids were capable of uniting with certain other substances, much in the same way that

alumina forms lakes. When a silver haloid was precipitated in the presence of certain coloring matters, they combined with it, and though soluble in water, they could not be subsequently washed out. They had formed a somewhat stable compound, although the proportion of coloring matter was very small in comparison with the haloid; evidently much too small to represent a stoichiometrical composition. I find that a silver haloid may, in the same way, unite with a certain proportion of its own subsalt, which, by this union, quite loses its characteristic instability and forms a compound of great permanence.

Another explanation is possible; the subsalt may combine with the normal salt, not in the manner above described, but in stoichiometrical proportion, and this compound may be diffused through ordinary silver haloid. I have not been able to find any reaction decisive between these explanations, but the general behavior of the substance seems rather to indicate the first named explanation as the true one. When the red chloride, for example, has been boiled with dilute nitric acid for a few moments to eliminate any uncombined subchloride, the proportion of subchloride left has never exceeded eight or nine per cent. in over thirty specimens analyzed. If we took this to represent a compound in equivalent proportions, we should have to suppose the union of at least twenty equivalents of AgCl with one of Ag_2Cl , which is improbable. If we suppose that these colored substances, containing from less than one-half per cent. up to eight or nine per cent. of Ag_2Cl , consist of a compound of one equivalent of subchloride united to a small number of equivalents of normal chloride, mixed mechanically with a large quantity of normal chloride, then it would be improbable that specimens could not be obtained containing a larger proportion of this compound, and consequently of Ag_2Cl , but, as already said, specimens containing more than nine per cent. after thorough treatment with nitric acid to remove the uncombined subchloride, I have never obtained; generally, the amount is less. Even

when silver chloride, bromide, or iodide contains as little as one-half of one per cent. of subsalt combined, its properties are greatly changed. It has a strong coloration, and its behavior to light is altered. Even a much less quantity, one inappreciable to analysis, is capable of affecting both the color and the behavior to light. It is one of these latter forms of this substance that constitutes the actual material of the latent photographic image. Adequate proof of this will be given in the second part of this paper.

RED SILVER CHLORIDE.

Of the three haloids, the chlorine salt is the most interesting, because of its relations to heliochromy; it is also the most stable of the three compounds, and exhibits, perhaps, a finer variety of coloration, though the bromide and iodide are also obtainable of very beautiful tints. The chloride shows all the warm shades from white to black through the following gradations: white, pale flesh color, pale pink, rose color, copper color, red-purple, dark chocolate, and black.

These compounds are obtained in an endless variety of ways: by chlorizing metallic silver; by acting on normal chloride with reducing agents; by partly reducing silver oxide or silver carbonate by heat, and treating with H Cl; by forming suboxide or a subsalt of silver, and treating with H Cl, followed by nitric acid; by acting on subchloride with nitric acid or an alkaline hypochlorite, etc.; by attacking almost any soluble salt of silver with ferrous, manganous, or chromous oxide, etc., followed by H Cl; by reducing silver citrate by hydrogen, and treating it with H Cl; by treating a soluble silver salt, or almost any silver solution, with potash or soda, and almost any reducing agent, cane sugar, milk sugar, glucose, dextrine, aldehyde, alcohol, etc., and supersaturating with H Cl; there is no organic easily oxidizable substance that I have tried that has failed to give this reaction. Also almost any salt of silver exposed to light, treated with H Cl and then with hot, strong nitric acid, yields it. Almost any of these classes represents a long range of reactions, each

susceptible of endless variation. In fact, the more the matter is studied, the more extended the range of reactions is found to be that give rise to the formation of this substance. To show how slight an influence will lead to the production of red chloride instead of white: if freshly precipitated argentic oxide is mixed for a few moments with starch or tragacanth paste, and is then treated with H Cl, the result is, not white, but pink, silver chloride. Even raw starch flour mixed with silver oxide will, in a few moments, cause it to give a pale flesh colored chloride with H Cl. Boiled starch or tragacanth paste does this more quickly, and acts more strongly, even in the cold, and still more if heat is applied.

Although red is probably the most characteristic color of this substance, so that I have spoken of it above as red chloride, nevertheless this hardly seems a proper name for a substance that is often purple, chocolate, or black, sometimes brown, or even ochreous, sometimes lavender or bluish, and is probably capable of assuming every color of the spectrum. To call it argento-argentic chloride would infer a stoichiometrical composition that, as already mentioned, seems very uncertain, too much so to serve as the basis of the name. Therefore, and as these substances have been hitherto seen only in the impure form in which they are produced by the continued action of light on the normal salts, it might be convenient to call them photosalts, photochloride, photobromide, and photoiodide, instead of red or colored chloride, etc., and thus to avoid the inexactness of applying the term red chloride to a substance exhibiting many other colors.

(To be continued.)

Were it asked, Who of all those connected with photographic science has, by original research, careful experiment, and lucid description, done most to advance our art in what we may term its practical science? it is probable that the answer would be M. Carey Lea, of Philadelphia.—*British Journal of Photography.*

Pacific Coast Amateur Photographic Association.

SAN FRANCISCO, May 18th, 1887.

To the Editor of the American Journal of Photography, Philadelphia.

On the 5th inst. was held the regular monthly meeting of the Pacific Coast Amateur Photographic Association, Mr. Tasheira, the President, being in the chair, and a good attendance of the members being present.

The feature of the evening was the exhibition by Dr. S. C. E. Passavant of specimens of chloride positive paper manufactured by him. The Doctor, in his remarks, said that while this process of printing is not entirely new, he brought it to the attention of the society as being something novel to some of its members.

The process consists of coating a non-porous gummed paper with a collodion chloride of silver emulsion. The printing is done in the ordinary way, as with silver paper, but requiring only about one-fifth of the usual time. The advantages of the use of this paper are its quickness in printing (being five or six times as rapid as silver paper), and its permanency. After printing, the image can be easily transferred to a gelatine-coated plate, or a suitable piece of wood or other substances, by squeegeeing the printed paper face down on the substance to be coated. The gum can then be readily dissolved, and on lifting the paper, the image will remain. A brush should be used, with plenty of water, to take off the gum remaining. The plate or other substance on which the impression is left, is then toned down with a sulphocyanide of ammonium and gold bath (gold, 1 to 100; sulphocyanide, 2 to 100). It is then fixed with the ordinary hypo bath.

Mr. Will Brown exhibited his patented finder, with differential focussing attachment, and in explanation said: "I have attempted to arrange a camera by which any object, near or distant, may be focused without removing the plate-holder to insert the ground glass focusing screen.

"The focus is obtained by a supplementary camera, whose lens is moved in unison

with the main lens of the camera proper by a differential lever attached thereto, and thus the images on the cameras are of one and the same focus."

The usual routine business was conducted, and complimentary remarks were made as to the energy displayed by the new room committee, and as to the orderly appearance of all things connected with the society's rooms since the present committee had been in charge.

After payment of dues, which was promptly responded to, the society adjourned until its next monthly meeting.

SIDNEY M. SMITH,

*Corresponding Secretary.***Our Illustration.**

We are indebted to Mr. H. Parker Rolfe, an artist of this city, for the series of views illustrating the present number of the JOURNAL.

The work is characterized by artistic feeling in the selection of subject, as well as for technical excellence in the manipulation of the plates.

The series comprises a variety of subjects, all of which possess vigor, yet softness, and a depth of tone, yet wealth, in gradations, which make it a pleasure to study them individually.

The prints are upon Morgan's Brilliant Albumen Paper, which always does justice to a fine negative.

June Bargain List.**Accessories:**

1—Papier Mache, Fire Place and Cabinet combined, fair condition, reduced to	\$4 00
1—Papier Mache Pedestal and Base, good order	2 00
1—Universal Position Chair, Crimson Terry; all Attachments except Baby Chair; good as new	30 00
—Spencer Head-rest	11 00
1—Drapery	4 00
1—Drapery	6 00
1—Papier Mache Log, 2 feet long	2 00
1—8x10 Osborne Interior, new, light left of sitter	16 00
1—Pharaoh Position Chair	20 00
1—Seavey baby shell, with background, complete	4 00
1—8x10 Eastman's Roll Holder, good as new	20 00
1—8x10 Hough's ground, light left of sitter	12 00
1—8x8 Seavey Ground, new, lt. right	15 00
1—8x8 Seavey Ground, new	15 00

1-8x10 Osborne's interior background, new, lt. left.....	\$20 50
1-8x10 Seavey's interior background, new, lt. left.....	20 00
1-8x8 interior background.....	15 00
1-7x9 exterior ground.....	7 50
1-8x10 Hough exterior ground.....	16 00
1-4x8 Osborne's tide slip.....	7 50
1-Iron centre camera stand.....	2 50
5x8 orange glass developing trays.....	40
Wood drop shutters.....	1 50
Negative boxes, odd sizes, each.....	20
1-Adjustable Am. Position Chair.....	12 00
1-Position Chair, rising back.....	8 50
1-6 inch Burnisher.....	5 00
4 1/4 x 5 1/4 Beveled Edge Cards, per doz.....	10

Camera Boxes.

1-5x8 Tourist Outfit, including 5x8 Tourist Camera Box, 2 Daisy Plate Holders, 1 Extension Tripod, and 1 Canvas Carrying Case, very little used. Price, new, \$40.50, will sell for.....	30 00
1-5x8 A G Co. first quality box, 4 double holders, carrying case tripod with 1 5x6 Dallmeyer R R Lens, used very little, good as new.....	68 00
1-4x5 Anthony's View Camera and 6 Holders.....	12 00
1-6 1/2 x 8 1/2 camera, with ratchet bed, ground glass and wet holder.....	6 00
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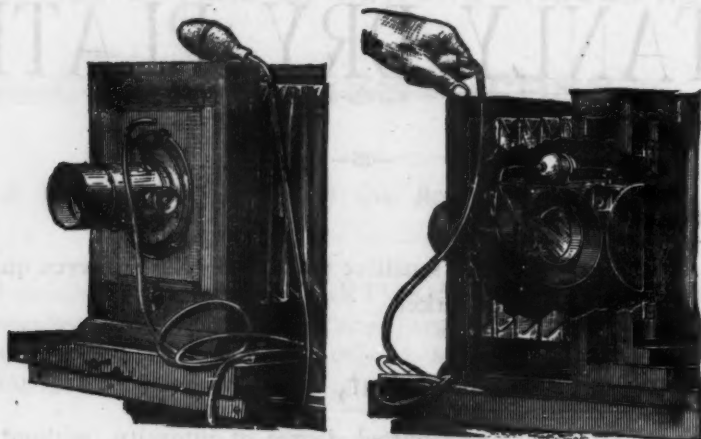
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